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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,002	12/19/2001	Jesse Chienhua Shan		3660

7590
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11/29/2005

EXAMINER

HOFFMANN, JOHN M

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 11/29/2005

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/025,002
Filing Date: December 19, 2001
Appellant(s): SHAN, JESSE CHIENHUA

MAILED

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GROUP 1700

Chun Ng
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 14 March 2005 appealing from the Office action mailed 30 August 2004.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct.

WITHDRAWN REJECTIONS

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner. The rejection of claim 1 in view of Bruce and Bazylenko is withdrawn for the sake of convenience.

GROUND OF REJECTION NOT ON REVIEW

The following grounds of rejection have not been withdrawn by the examiner, but they are not under review on appeal because they have not been presented for review in the appellant's brief.

The rejections of claims 10 and 20. See page 6, lines 6-13 of the Brief which indicates claims 10 and 20 are not allowable.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,119,460	BRUCE et al	6-1992
6,154,582	BAZYLENKO et al.	11-2000

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

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art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-2, 4-6, 8-9, 11-13 and 16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 and claim 11: there is no support for the waveguide support "being raised" (line 3) relative to the lower cladding layer as claimed. Examiner could find no support for such. Moreover there is no support for the raising being "such that said at least one waveguide support has a waveguide support width dimension and a waveguide support height dimension." The waveguide support would have those dimensions – regardless of whether it is raised or not. As can be seen from applicant's figures 1-2, the supports are part of the lower cladding layer 103: so the claims require the cladding being raised relative to itself – which is impossible – so clearly there can't be any support for it.

To further explain "impossible": it is impossible to raise something relative to itself. One can only raise something relative to something else. If one raises 102 a height of x , then the 103 is raise a height x and $(x - x = 0)$ which means there is "0" relative movement.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-2, 4-6, 8-9, 11-13 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 (line 3) : it is unclear what is meant by the waveguide support "being raised" relative to the lower cladding layer. The specification make no mention of a raising step – so it is unclear what is meant by the claim language. The specification only shows the removal of material. It is unclear the raising is limited to the material removal, or what. The same applies to claim 11.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 5 and 8-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Bruce 5119460.

Figure 4 of Bruce has the three forming steps of the claims. The details are explained below.

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Claim 1: A method comprising: forming a lower cladding layer, said lower cladding layer having at least one waveguide support,

Looking at figure 1 of Bruce, 20 is the lower cladding layer (col. 2, line 46) which has (i.e. comprises) a waveguide support 30. Although Bruce doesn't call it a support, it does support the waveguide 40. Applicant has not defined "waveguide support" in a manner which would preclude 30 from being considered a waveguide support.

said at least one waveguide support being raised relative to said lower cladding layer such that said at least one waveguide support has a waveguide support width dimension and a waveguide support height dimension;

It is deemed that the waveguide support is raised relative to the lower cladding layer – in as much as Appellant's invention's support is raised. It is clear from the drawing that Bruce has dimensions.

forming a core material onto said at least one waveguide support;

See feature 40. See also, col. 2, line 48.

and forming an upper cladding layer over said core material.

See feature 50. See also, col. 2, line 49.

Claim 2 is clearly met.

Claim 5: see col. 3, line 46.

Claim 8: see claim 1 of Bruce.

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Claim 9: figure 1 shows the substrate 10: the other layers are formed in situ – i.e. on top of the substrate. Alternatively, Appellant argues that “in situ” is an “ability to perform multiple steps” in a single chamber. (Brief, page 7, lines 18-19). It is deemed that Bruce’s method has this “ability” in as much as applicant’s method has the ability.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4,6,11-13 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bruce 5119460 as applied to claim 1, and further in view of Bazylenko 6154582.

Claim 4 requires the use of a HDPCVD process during the forming of the core material. Bruce does not teach this. Bruce only mentions using “low-pressure chemical vapor deposition, according to methods that are well-known in the art” (col. 3, lines 41-43).

Bazylenko teaches a low-pressure (col. 3, lines 1-2; col. 2, lines 54-57; 6, lines 15-20 and claim 5) CVD process (HDPCVD) that has various advantages such as it is “simpler” (col. 3, line 15). Bazylenko also discloses that such can be used to make

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optical components on their own (col. 10, lines 7-9). It would have been obvious to use the Bazylenko deposition technique as the Bruce low-pressure technique – for the advantages that Bazylenko teaches.

Claim 6: Bruce does not teach how to create the shape of sub-layer 30. Figures 6a and 6b (and the associated text) of Bazylenko which disclose the patterning and etching. Col. 8, lines 15-19 discloses the depositing. It would have been obvious to use the Bazylenko shaping method because some sort of forming step is needed and since it is compatible with the rest of the Bazylenko deposition steps.

Claim 11 is the comprises the limitations of claims 1, 2, 4 and 5 and would have been obvious for the reasons given above. Claim 11 also requires a width dimension be less than a height dimension. It is clear Bruce's support has various height dimensions that would be greater than the width dimension.

Claim 12 adds the limitations of claim 6 to claim 11; claim 13 adds the limitations of claim 8; and claim 16 adds the limitations of claim 9 – such would have been obvious for the reasons given above.

(10) Response to Argument

35 USC 112 – First paragraph – Written Description Requirement

The rejection is based on the “being raised” language in both independent claims. Appellant argues implicit support rather than explicit support. Specifically,

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Appellant points out that that the lower cladding layer is actually lowered (rather than the raising of the supports) and then concludes that this is sufficient to meet the written description requirement.

Examiner disagrees. The plain meaning of something "being raised" is not the same thing as another portion being lowered.

From MPEP 2111.01:

Plain Meaning

I. THE WORDS OF A CLAIM MUST BE GIVEN THEIR "PLAIN MEANING" UNLESS THEY ARE DEFINED IN THE SPECIFICATION

While the claims of issued patents are interpreted in light of the specification, prosecution history, prior art and other claims, this is not the mode of claim interpretation to be applied during examination. During examination, the claims must be interpreted as broadly as their terms reasonably allow. In re American Academy of Science Tech Center, **367 F.3d 1359, 1369, 70 USPQ2d 1827, 1834 (Fed. Cir. 2004)**< (The USPTO uses a different standard for construing claims than that used by district courts; during examination the USPTO must give claims their broadest reasonable interpretation.). This means that the words of the claim must be given their plain meaning unless applicant has provided a clear definition in the specification. In re Zletz, **893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989)** (discussed below); *Chef America, Inc. v. Lamb-Weston, Inc.*, **358 F.3d 1371, 1372, 69 USPQ2d 1857 (Fed. Cir. 2004)** (Ordinary, simple English words whose meaning is clear and unquestionable, absent any indication that their use in a particular context changes their meaning, are construed to mean exactly what they say. Thus, "heating the resulting batter-coated dough to a temperature in the range of about 400oF to 850oF" required heating the dough, rather than the air inside an oven, to the specified temperature.). One must bear in mind that, especially in nonchemical cases, the words in a claim are generally not limited in their meaning by what is shown or disclosed in the specification. See, e.g., *Liebel-Flarsheim Co. v. Medrad Inc.*, **358 F.3d 898, 906, 69 USPQ2d 1801, 1807 (Fed. Cir. 2004)**(discussing recent cases wherein the court expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment). It is only when the specification provides definitions for terms appearing in the claims that the specification can be used in interpreting claim language. In re Vogel, **422 F.2d 438, 441, 164 USPQ 619, 622 (CCPA 1970)**. See also *Superguide Corp. v. DirecTV Enterprises, Inc.*, **358 F.3d 870, 875, 69 USPQ2d 1865, 1868 (Fed. Cir. 2004)**

Lowering one section, is not the same as raising another section – even if the net result is the same. It is largely irrelevant that the results are similar, because the claims are directed to a method – not the result of the method. Second, the lower cladding layer is not lowered as argued by Appellant. The layer is in the same relative position – it is not moved. At best, one might say that an upper surface of the layer is lowered – however the claims do not require such. Moreover, nothing is actually lowered in the specific embodiment, material is etched away and everything remains in its original position.

It is noted that Appellant has not addressed the portion of the rejection which states that one cannot raise something relative to itself. Since Appellant has failed to explain how the specification supports the limitation that something is raised relative to itself, the rejection should be maintained.

35 USC 112 – Second paragraph

This rejection is also based on the “being raised” language as well. Applicant argues that pillars/supports are raised above the lowest level of the lower cladding layer, because part of the lower cladding is etched. The specification does not indicate that the lowering one portion is the same thing as raising another portion.

See Allen Eng'g Corp. V. Bartell Indus. Inc. 299 F 3d 1336, 1348, 63 USPQ2d 1769, 1775 (Fed. Cir. 2002) (quoting Personalized Media Communications, LLC v. Int'l Trade Comm'n, 161 F.3d 696, 705, 48 USPQ2d 1880, 1888 (Fed. Cir. 1998)) (“In determining whether the claim is sufficiently definite, we must analyze whether “one skilled in the art would understand the bounds of the claim when read in light of the specification.”) See also, Exxon Research & Eng'g Co. v. United States, 265 F.3d 1371, 1375, 60 USPQ2d

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1272, 1276 (Fed. Cir. 2001) (citation omitted) (patent claims must be “sufficiently precise to permit a potential competitor to determine whether or not he is infringing”).

Examiner could find nothing in the specification which would suggest that a potential competitor would be able to ascertain whether a particular invention would infringe. A competitor at best would only guess that applicant’s disclosed embodiment would read on the claimed “being raised”. In other words: it is unclear whether the “being raised” should be limited to the lowering (argued but not disclosed), or material removing; or lifting; or something else.

Moreover, Examiner disagrees with the assertion that the lower cladding layer is lowered. The layer stays in its position. It is not lowered (i.e. moved downwards).

35 USC 102(b)

It is argued that “the lower cladding layer 20 of the Bruce patent does not disclose” (sic) the waveguide support that is raised. The fact that Bruce does not disclose that the feature 30 is a waveguide support is largely irrelevant because feature 30 clearly supports a waveguide in substantially the same fashion that Appellant’s support supports. Applicant has not pointed out why one cannot consider 30 to be a waveguide support. Examiner could locate no definition for “waveguide support” which excludes Bruce’s structure 30.

It is also argued that claims 1 and 11 “require that the waveguide support is from the lower cladding layer.” Examiner disagrees. Claims 1 and 11 only requires that there be a step of forming a “lower cladding layer having at least one waveguide

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support”. Whereas there is disclosure for such a limitation in the specification, and the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The claim only requires that the layer which has the support is formed – there is no limitation as to what it is made “from”.

It is further argued that structure 30 is not of the same material as the lower cladding material 20. This is deemed to be irrelevant, because the claim does not require that support be the same material as the rest of the layer. Whereas there is disclosure for such a limitation in the specification, and the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, page 5, lines 6-11 of the instant specification indicates that the claims are not to be limited to the specific embodiments that are disclosed. In as much as a “stack of papers having a connecting structure” does not require the connecting structure be made of paper; or a “sphere having a protrusion or support” would not require the protrusion or support to be made as the same material as the rest of the sphere” it does not seem reasonable to interpret the present claim as requiring that the layer and support be made from exactly one material. The plain meaning of the limitation is that there has to be a layer and the layer has waveguide support structure.

The arguments pertaining to claim 4 (and 11-13 and 16) are not relevant. These claims are not rejected under 35 USC 102(b).

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It is argued that the term “in situ” as used in the semiconductor processing arts refers to the ‘ability’ (Brief, page 7, last full paragraph) to perform multiple steps without the need to remove the semiconductor wafer from a chamber. No evidence is cited to support this definition.

The specification must clearly set forth the definition explicitly and with reasonable clarity, deliberateness and precision. *Teleflex Inc. v. Ficosa North America Corp.*, 63 USPQ2d 1374, 1381 (fed. Cir. 2002), *Rexnord Corp. v. Laitram Corp.* 60 USPQ2d 1851, 1854 (fed. Cir. 2001) and MPEP 2111.01.

Moreover, what the term means in the semiconductor art is presumed to be irrelevant as to the meaning in other arts – such as the present field of making optical waveguides.

Regardless, it is deemed that Bruce inherently has this “ability”. It is presumed that any process can be considered to be “in situ” because any process can be performed entirely in a chamber – as long as one has a big enough chamber. For example Jumbo jets manufacturing can be “in situ” because it is a process that has the inherent ability to be done in an aircraft hanger (i.e. a very large chamber).

35 USC 103

It is argued that Examiner confuses LP(low pressure)CVD with HDP(high density plasma)CVD. Appellant alleges that the are two different processes that are very dissimilar. This is merely an assertion with no evidence or even an explanation as to

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why they are (always and necessarily) dissimilar or different. It is clear from Bazlenko that Bazlenko teaches a particular LPCVD process that is also an HDPCVD process. (see col. 2, lines 55-60 which discloses in the preferred embodiment a high density plasma is produced; col. 6, lines 11—20 disclose that a low pressure, i.e. 2 Pa, is used when using the “preferred” chamber and that the other capable sources are also high density plasma sources; and the sentence spanning cols 2-3 along with col. 5, lines 27-35 indicate that oxygen usage is “the preferred embodiment” and that oxygen use is “preferably...low”). It would appear that Appellant’s argument that one cannot have an LPCVD that is also HDPCVD is suggestive that Bazlenko is not enabled.

It is also argued that Bazlenko patent does not teach the use of an in situ process for the core layer and the upper cladding layer. (see the above discussion as to why Examiner disagrees).

Lastly it is argued that Bazlenko’s support does not have a “width that is less than its height”. This is irrelevant because Bruce has the dimensions. Furthermore, the claim is not limited to a “width” and “height” (which are identified in the specification), rather the claims refer to a “width dimension” and “height dimension”.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner’s answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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